Report By:

National TAB
1329 E. KEMPER ROAD
SUITE 4210
CINCINNATI, OH 45246

Report: TAB Report

Function: Test, Adjust, & Balance

Date: 03/12/2026

Completed By: National TAB

PROJECT

05-18-26 QT #1010 CHARLOTTE, NC

1134 N. GRAHAM STR

CHARLOTTE, NC

Client

QUIKTRIP

4705 SOUTH 129TH EAST AVENUE

TULSA, OK 74134

National TAB

Project: 05-18-26 QT #1010 CHARLOTTE, NC

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Project Summary

Project Summary
The summary below provides a quick understanding of our scope of work and general testing procedures. Enclosed in the report are further details about your building performance including recommendations, asset data, and pictures. Our focus is to work with the trades to remedy any issues or deficiencies during the actual field balancing and not after the balancing has occurred to achieve a positive environment and outcome. The level of success is determined by the availability of the trades, possible parts needed, or time constraints.

RTU's (Roof Top Units)
Each of the RTU's was measured with a flow hood to establish total flow. The total flow was then adjusted via the VFD so that airflow fell within design tolerances. All diffusers on the kitchen RTU were balanced to the engineer's design flow. The diffusers on the sales floor were only adjusted when there were noticeable issues present like drafting or dampers that were found completely closed. The Hoods On outside air rate was set by first establishing the typical QT set point at the Emerson controller and then making manually adjustments on the roof. The hoods off airflow setpoint was found by adjusting the damper position at the Emerson controller until the design airflow was achieved. Outside air was measured by reading the intake air opening with a velocity grid and multiplying by the free area. After completion of TAB all overrides were released.

Kitchen Exhaust Hood & Associated Fans
The kitchen exhaust fan was measured at the hood filter bay utilizing a velocity matrix and a manufacturer's correction factor. Each filter velocity is multiplied by the manufacturer's corrected area. The sum of these readings equals the total flow of the exhaust fans. The total flow of the exhaust was then adjusted to within tolerance of the design flow.

Restroom Exhaust Fans
The restroom exhaust fans were measured with a flow hood. The total flow was balanced for the fan with the exception of the new grille over the combi-oven, which was balanced to the listed design.

Final Building Tests
After completing the test and balance the final building pressure was measured. It was confirmed that the building pressure fell within acceptable tolerances and that the pressure measurement coincides with the actual and design net airflow. Any deviations from these standards are noted throughout the report. The hood capture was tested at the perimeter of the hood and the cook top level with the equipment heat on to ensure satisfactory hood capture and containment.

NATIONAL TAB

AIR BALANCE SCHEDULE

UNIT	AREA SERVED	HOOD ON OA		HOOD OFF OA		HOOD ON EXHAUST		HOOD OFF EXHAUST	
		DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
RTU 1	SALES	800	769	350	355				
RTU-2	SALES	800	834	350	358				
RTU-3	BOH/KITCHEN	800	753	350	341				
EF-1	RR/JANITOR					750	715	750	715
EF-3	HOOD					1350	1360	0	0
TOTALS		2400	2356	1050	1054	2100	2075	750	715

HOODS ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2400	2356
TOTAL EXHAUST	2100	2075
NET AIRFLOW	300	281

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.011"
SIDE	
REAR	0.009"
AVERAGE	

HOODS OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1050	1054
TOTAL EXHAUST	750	715
NET AIRFLOW	300	339

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.014"
SIDE	
REAR	0.013"
AVERAGE	

NOTES:

CheckList List

- 01: RTU’s/AHU’s
- 02: Exhaust Fans
- 03: Hoods
- 04: Final Tests

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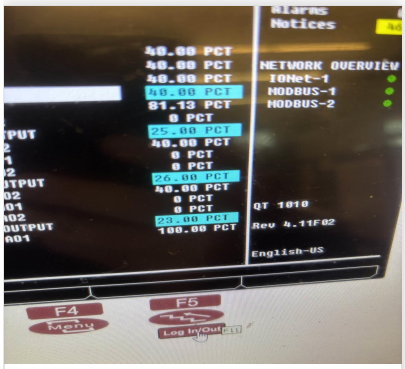
CheckList Information

Name :	01: RTU's/AHU's	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	01/06/2026 - Trinity Dodds - National TAB		
Completed Date :	03/12/2026 - Christian Moller - National TAB		

CheckList Item Details

RTU's/AHU's



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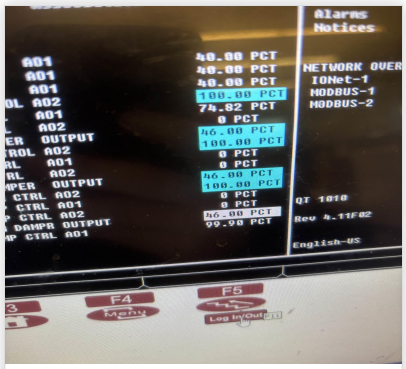

03/12/2026

Evaporator coils are clean?	Pass
Comment:	

Condenser coils are clean?	Pass
Comment:	

Gas piping is installed and valves are turned on?	Pass
Comment:	

Unit free of noticeable noise and vibration	Pass

Comment:

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CheckList Information

Name :	02: Exhaust Fans	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	01/06/2026 - Trinity Dodds - National TAB		
Completed Date :	03/12/2026 - Christian Moller - National TAB		

CheckList Item Details

EF's

Hinge kit installed installed on hood fan?	Pass
Comment:	
Flex conduit is long enough so that fan can be completely tilted back?	Pass
Comment:	
No major leakage around the fan base	Pass
Comment:	
Unit is free of noise and vibration	Pass
Comment:	

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CheckList Information

Name :	03: Hoods	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	01/06/2026 - Trinity Dodds - National TAB		
Completed Date :	03/12/2026 - Christian Moller - National TAB		

CheckList Item Details

HOODS

Hood is free of alarms?	Pass
Comment:	
Hood is free of damage?	Pass
Comment:	
End panels are installed per prototype?	Pass
Comment:	

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CheckList Information

Name :	04: Final Tests	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	01/06/2026 - Trinity Dodds - National TAB		
Completed Date :	03/12/2026 - Christian Moller - National TAB		

CheckList Item Details

FINAL CHECKS

HOOD CAPTURE TEST

List kitchen equipment turned on for testing

Comment:

Fryer, Pizza Oven

List smoke candle type used

Comment:

None - only cooking was observed

Smoke test capture % - Perimeter of hood

Comment:

100%

Smoke test capture % - Top of cooking surface

Comment:

100%

WITNESS

Date test was completed	03/12/2026

Comment:

TAB tech name / Firm

Comment:

Christian Moller / NTAB

Site super name / Firm

Comment:

Randy Edmonds / Ascent construction

Owner representative name / Firm (if Applicable)

Comment:

N/A

BUILDING PRESSURE

Do actual net building airflow, design net building airflow, and pressure coincide? If not why? (All three should either be positive or negative)	Pass

Comment:

HOOD ON: Front: 0.011" Back: 0.009" HOOD OFF: Front: 0.014" Back: 0.013"

National TAB

Project: 05-18-26 QT #1010 CHARLOTTE, NC

System/Unit: AHU/RTU

Asset: RT-1 AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	202001-ANEK19589
Model Num	RN-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	45X24
Num Final Filter 1	2
Final Filter Size 1	56X45

Motor Data	
	Actual
Motor MFG	AAON
Horsepower	3
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	**Actual**
SF CFM	4200	4313
SF RPM	-	DD
OA CFM (Hoods On)	800	769
OA CFM (Hoods Off)	350	355
RL Voltage	-	207/208/209
RL Amperage	-	6.4/6.2/5.8
VFD Max SetPt	-	36Hz
VFD Min SetPt	-	24Hz
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	25%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.29"
Fan Suction SP	-	-0.41"
Fan Discharge SP	-	0.39"
Total ESP	-	0.70"
Fan Total SP	-	0.80"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

Completed By: Christian Moller on 03/12/2026

Unit Data - PHOTO LOG

03/12/2026

National TAB

Project: 05-18-26 QT #1010 CHARLOTTE, NC

System/Unit: AHU/RTU

Asset: RT-2 AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	202001-ANEK19588
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	45X24
Num Final Filter 1	2
Final Filter Size 1	56X45

Motor Data	
	Actual
Motor MFG	AAON
Horsepower	3
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	**Actual**
SF CFM	4200	4282
SF RPM	-	DD
OA CFM (Hoods On)	800	834
OA CFM (Hoods Off)	350	358
RL Voltage	-	209/210/208
RL Amperage	-	5.4/5.2/5.7
VFD Max SetPt	-	34Hz
VFD Min SetPt	-	24Hz
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	26%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.29"
Fan Suction SP	-	-0.42"
Fan Discharge SP	-	0.36"
Total ESP	-	0.71"
Fan Total SP	-	0.78"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

Completed By: Christian Moller on 03/12/2026

Unit Data - PHOTO LOG

03/12/2026

National TAB

Project: 05-18-26 QT #1010 CHARLOTTE, NC

System/Unit: AHU/RTU

Asset: RT-3 AREA:BOH/KITCHEN

Unit Data	
	Actual
MFG	AAON
Serial Num	202001-ANEK19587
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	45X24
Num Final Filter 1	2
Final Filter Size 1	56X45

Motor Data	
	Actual
Motor MFG	AAON
Horsepower	3
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	**Actual**
SF CFM	4200	4195
SF RPM	-	DD
OA CFM (Hoods On)	800	753
OA CFM (Hoods Off)	350	341
RL Voltage	-	208/207/209
RL Amperage	-	8.0/8.2/8.5
VFD Max SetPt	-	40.2Hz
VFD Min SetPt	-	24Hz
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	23%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.32"
Fan Suction SP	-	-0.49"
Fan Discharge SP	-	0.42"
Total ESP	-	0.81"
Fan Total SP	-	0.91"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

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Unit Data - PHOTO LOG

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Project:05-18-26 QT #1010 CHARLOTTE, NC

AHU/RTU

Diffuser Supply (GRD)

RT-3/BOH/KITCHEN

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	SUPPORT SERVICE	SI	12"	800	1	355	753	753	94.1
SGRD2	SUPPORT SERVICE	SI	12"	800	1	351	744	744	93.0
SGRD3	SUPPORT SERVICE	SI	12"	800	1	414	842	842	105.3
SGRD4	SUPPORT SERVICE	SI	12"	800	1	406	829	829	103.6
SGRD5	DOCK	ES	10"	500	1	362	531	531	106.2
SGRD6	WORKROOM	ES	8"	250	1	169	268	268	107.2
SGRD7	WORKROOM	ES	8"	250	1	158	228	228	91.2
Total				4200		2215	4195	4195	99.88%

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Project: 05-18-26 QT #1010 CHARLOTTE, NC

System/Unit: FAN - Exhaust

Asset: EF1 AREA:RESTROOMS/JANITOR

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	DR50HFA
Serial Num	-	4103395
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	CAPTIVEAIRE
Horsepower	-	0.5
Motor Rpm	-	2000
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	8.4

Test Data		
	Design	**Actual**
CFM	750	715
Fan RPM	-	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER / MEDIUM SPEED
RL Voltage	-	109
RL Amperage	-	6.2
Total ESP	-	0.52”
Fan Inlet SP	-	-0.52”
Fan Discharge SP	-	ATM

Completed By: Christian Moller on 03/12/2026

Unit Data - PHOTO LOG

03/12/2026

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Project:05-18-26 QT #1010 CHARLOTTE, NC

Diffuser Ret/Exh (GRD)

EF1/RESTROOMS/JANITOR

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD4	SUPPORT SERVICE	RI	8"	150	1	253	162	162	108.0
Total				150		253	162	162	108%

National TAB

Project: 05-18-26 QT #1010 CHARLOTTE, NC

System/Unit: FAN - Exhaust

Asset: EF3 AREA:KITCHEN HD

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	8309100
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	CAPTIVEAIRE
Horsepower	1/2	0.5
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	208
Amperage (rated)	-	3.8

Test Data		
	Design	**Actual**
CFM	1350	1360
Fan RPM	-	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	HMI / 54.5Hz
RL Voltage	-	210
RL Amperage	-	2.5
Total ESP	-	0.46"
Fan Inlet SP	-	-0.46"
Fan Discharge SP	-	ATM

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Unit Data - PHOTO LOG

03/12/2026

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Project: 05-18-26 QT #1010 CHARLOTTE, NC

System/Unit: Kitchen Hood Type I

Asset: HD1 AREA:GRIDDLE

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	6030ND-2-F	6030ND-2
Job / Serial Num	-	8309100
Type	-	TYPE I CANOPY
Hood length	-	108"
Hood Width	-	60"

Test Data Exhaust		
	Design	**Actual**
Filter Type	-	BAFFLE
Filter Size 1	-	16X20
Filter Qty 1	-	6
Filter AK factor size 1	-	2.08
Filter Total AK Area	-	12.48
Filter1 FPM	-	102
Filter2 FPM	-	105
Filter3 FPM	-	115
Filter4 FPM	-	119
Filter5 FPM	-	108
Filter6 FPM	-	108
Filter Ave FPM(corr)	-	109
CFM	1350	1360

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	PIZZA OVEN

Completed By: Christian Moller on 03/12/2026

Unit Data - PHOTO LOG

03/12/2026